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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,066	08/29/2001	Hua Wang	RD-29,123	6499

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EXAMINER	
FONTAINE, MONICA A	

ART UNIT	PAPER NUMBER
1732	3

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO-3

Office Action Summary	Application No. 09/942,066	Applicant(s) WANG ET AL.	
	Examiner Monica A Fontaine	Art Unit 1732	

-- The MAILING DATE of this communication app ars on the cover sh t with th correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor et al. (U.S. Patent 5,079,307). Regarding Claim 1, Taylor et al., hereafter "Taylor," show that it is known to carry out a method for removing volatile components from a polymer powder (Column 2, lines 18-22), said method comprising introducing a polymer powder comprising water into an extruder (Column 2, lines 53-58), said extruder comprising a powder conveying section (Figure 1, barrel section 1), a powder seal section located downstream of said powder conveying section (Figure 1, melt seal between barrel sections 1 and 2), a kneading and melting section located downstream of said powder seal section (Figure 1, barrel sections 2 and/or 3), and a vacuum vent located downstream of said kneading and melting section (Figure 1, vacuum vent depicted at the top of barrel section 4), conveying the polymer powder through said powder seal section (Column 2, lines 18-21), heating and shearing the polymer powder in a kneading and melting section to form a polymer melt comprising water (Column 2, lines 12-17), and subjecting said polymer melt to vacuum venting at said vacuum vent (Column 2, lines 15-17).

Regarding Claims 2, 6 and 14, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein (Claim 2) said polymer

powder is polyamide (Column 1, lines 46-50); (Claim 6) the extruder is a twin screw, co-rotating extruder (Column 3, lines 38-40); and (Claim 14) said extruder further comprises at least one melt seal section (Figure 1, melt seals between sections 1 and 2, and 3 and 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, in view of Umemura et al. (U.S. Patent 4,845,193).

Regarding Claims 3 and 4, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show the use of specific volatile organic compounds. Umemura et al., hereafter "Umemura," show that it is known to carry out a molding operation wherein (Claim 3) a powder comprises water further comprises one or more volatile organic compounds, said volatile organic compounds comprising one or more solvents (Column 3, lines 35-37; Column 4, lines 11-18), and (Claim 4) the organic solvents comprise methylene chloride (Column 4, lines 45-47). Umemura and Taylor are combinable because they are concerned with a similar technical field, namely, that of molding operations using a vented extruder. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use methylene chloride as an organic solvent, as in Umemura, during Taylor's molding operation in

order to take advantage of the solvent's ability to promote the most efficient and desirable polymerization.

Regarding Claims 8 and 9, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show any specific temperature ranges. Umemura shows that it is known to carry out a molding process in which the extruder is operated with set temperatures of heated zones in a temperature between (Claim 8) about 100°C and about 400°C (Column 7, lines 44-46), and (Claim 9) about 200°C and about 450°C (Column 7, lines 44-46). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to heat the material in Taylor's extruder to Umemura's temperatures in order to process the molding material at its optimum working temperature.

Claims 5, 10-12, 15, 26-28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, in view of Hosomi et al. (U.S. Patent 5,717,055).

Regarding Claim 5, Taylor shows the process as claimed as discussed in the rejection of Claims 1 and 3 above, but does not show any specific composition of the molding material. Hosomi et al., hereafter "Hosomi," show that it is known to carry out a molding operation wherein the polymer powder comprises between about 0.1 and about 20 percent by weight water, and between about 0.001 to about 5 percent by weight of one or more organic solvents (Column 13, lines 29-32). Hosomi and Taylor are combinable because they are concerned with a similar technical field, namely, that of molding operations using a vented extruder. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's composition

as the molding material in Taylor's molding process in order to roduce an article having desired characteristics of Hosomi's composition.

Regarding Claim 10, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show any specific pressure applied via the vent. Hosomi shows that it is known to carry out a vented extruder operation wherein the vacuum vent is operated in a range between about 1 and about 750 torr (Column 5, lines 54-60). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's vacuum pressure as that of the vent in Taylor's molding process in order to draw the appropriate amount of volatiles from the material being processed in the extruder.

Regarding Claim 11, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but only shows one vacuum vent. Hosomi shows that it is known to carry out a molding method wherein an extruder comprises at least one additional vacuum vent (Column 5, lines 37-40). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's additional vacuum vents in Taylor's molding process in order to increase the amount of volatile material drawn from the molding material in the extruder.

Regarding Claim 12, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show a specific L/D ration. Hosomi shows that it is known to carry out a molding method having an extruder whose L/D ratio is between about 20 and about 60 (Column 8, lines 39-42). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's L/D

ratio as that of Taylor's extruder in order to promote the most efficient processing of the molding material.

Regarding Claim 15, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not explicitly show data demonstrating a product that is substantially free of water. Hosomi shows that it is known to carry out a vented extruder operation comprising recovering a polymer composition which is substantially free of water (Column 5, lines 26-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to create Hosomi's product that is substantially free of water by carrying out Taylor's molding process in order to create a product that is not prone to bubbling or blistering due to trapped water vapors (volatiles).

Regarding Claims 26-28, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show any additional polymer being added to the extruder. Hosomi shows that it is known to carry out a vented extrusion process wherein (Claim 26) at least one additional polymer is introduced to the extruder (Column 7, lines 24-27); (Claim 27) the additional polymer is a polyester (Column 7, line 26); and (Claim 28) the additional polymer is a polycarbonate (Column 7, lines 23-28). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to add an additional polymer, as in Hosomi, during Taylor's molding process in order to produce a molded resin article with properties of a composite molded article.

Regarding Claim 31, Taylor shows the process as claimed as discussed in the rejection of Claims 1 and 26 above, but does not show the use of ABS as an additional polymer. Hosomi shows that it is known to carry out a vented extrusion process wherein

an additional polymer is ABS (Column 7, line 26). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's additional ABS polymer in Taylor's molding operation in order to produce an molded resin article with properties of a composite molded article.

Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, in view of Andersen et al. (U.S. Patent 5,232,649).

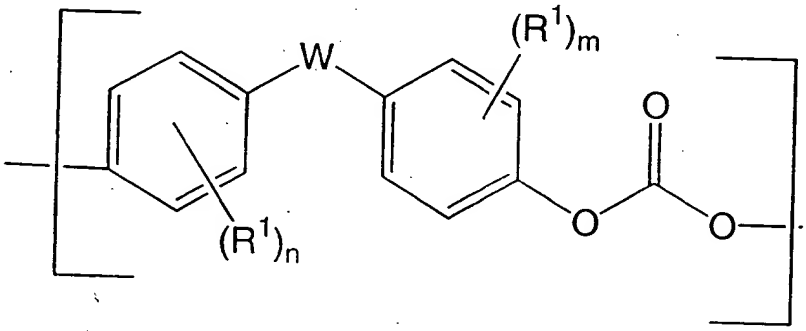
Regarding Claim 7, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show an extruder comprising multiple barrels. Andersen et al., hereafter "Andersen," show that it is known to carry out a molding operation wherein the extruder comprises one or more barrels (Column 3, lines 5-10; It is noted that Andersen's "one or more barrels" clearly teaches applicant's "5 to 10 barrels".). Andersen and Taylor are combinable because they are concerned with a similar technical field, namely, that of vented extrusion operations. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Andersen's multiple barreled operation with Taylor's general molding operation in order to more efficiently process a greater volume of material.

Regarding Claim 13, Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show specific flighting of kneading blocks. Andersen shows that it is known to carry out an extrusion operation wherein a kneading and melting section comprises both forward and rearward flighted kneading blocks (Column 3, lines 25-38). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Andersen's varying flight pitches in

Taylor's molding operation in order to enable the optimum desired processing of the molding material.

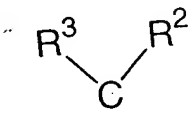
Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor and Hosomi as applied to claims 1 and 15 above, and further in view of Umemura. Taylor and Hosomi show the process as claimed as discussed in the rejection of Claims 1 and 15 above, but do not show specific ending compositions with very little organic solvent. Umemura shows that it is known to carry out a molding method wherein a polymer composition contains less than 0.5 percent by weight water and less than about 1 part per million methylene chloride (Column 12, Table 2; It is noted that the claim language contains the term "about 1 part per million". It is being broadly interpreted to mean +/- at least 0.1, and therefore Umemura's 1 part per million would meet applicant's claim.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to make Umemura's specific composition using Taylor's molding process in order to produce the most pure, high quality polymer possible.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, in view of Todt et al. (U.S. Patent 6,599,446). Taylor shows the process as claimed as discussed in the rejection of Claim 1 above, but does not show a specific chemical structure of the polymer powder. Todt et al., hereafter "Todt," show that it is known to carry out a molding method, wherein a polymer powder is a polycarbonate comprising structural units I



I

(Column 8, structural units XII, lines 2-12) wherein R1 is independently at each occurrence a C6-C20 aryl group (Column 8, line 14); n and m are independently integers 0-4 (Column 8, line 21); and W is the group



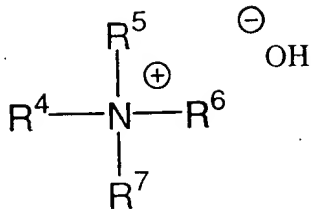
(Column 8, structural units XII, lines 2-12) wherein R2 and R3 are C1-C20 alkyl group (Column 8, line 15). Todt and Taylor are combinable because they are concerned with a similar technical field, namely, that of extrusion of a low-volatile polymeric composition. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Todt's polymer in Taylor's molding process in order to produce an article having the molded characteristics of the specific polycarbonate.

Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor and Todt as applied to claims 1 and 17 above, and further in view of Wang et al. (U.S. Patent 6,365,710).

Regarding Claim 18, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1 and 17 above, but they do not show the use of a hydrolysis catalyst. Wang et al., hereafter "Wang," show that it is known to carry out a vented extrusion process, wherein a hydrolysis catalyst is introduced into an extruder (Column 4, lines 62-65). Wang and Taylor are combinable because they are concerned with a similar technical field, namely, that of vented extrusion operations. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's hydrolysis catalyst in Taylor's and Todt's molding operation in order to promote expedite the molding process.

Regarding Claim 19, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, and 18 above, but they do not show the use of a specific hydrolysis catalyst. Wang shows that it is known to carry out a vented extrusion process, wherein the hydrolysis catalyst is a quaternary phosphonium hydroxide (Column 9, lines 48-49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's hydrolysis catalyst in Taylor's and Todt's molding operation in order to promote expedite the molding process.

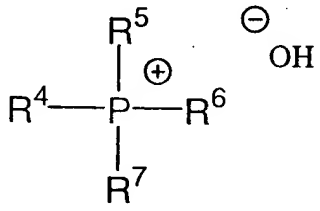
Regarding Claim 20, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, and 18 above, but they do not show the use of a hydrolysis catalyst with a specific structure. Wang shows that it is known to carry out a vented extrusion process, wherein the hydrolysis catalyst is a quaternary ammonium hydroxide having the structure II



II

(Column 9, lines 50-57) wherein each of R4-R7 is independently a C1-C20 alkyl radical (Column 9, lines 59-60). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's hydrolysis catalyst in Taylor's and Todt's molding operation in order to expedite the molding process.

Regarding Claim 21, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, and 18 above, but they do not show the use of a hydrolysis catalyst with a specific structure. Wang shows that it is known to carry out a vented extrusion process, wherein the hydrolysis catalyst is a phosphonium hydroxide having the structure III



III

(Column 10, lines 1-7) wherein each of R4-R7 is independently a C1-C20 alkyl radical (Column 9, lines 59-60). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's hydrolysis catalyst in Taylor's and Todt's molding operation in order to expedite the molding process.

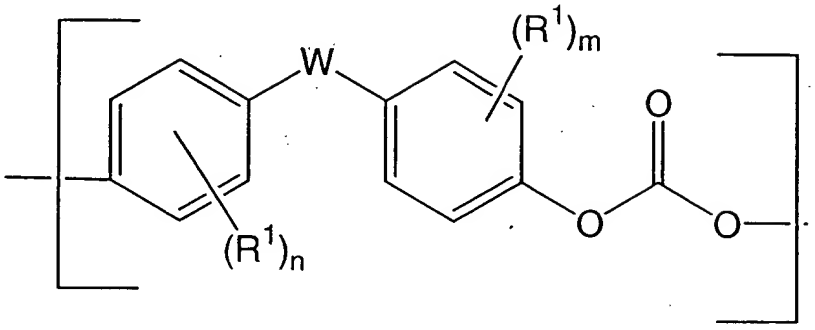
Regarding Claim 22, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, and 18 above, but they do not show a process wherein the polycarbonate's molecular weight is lowered by the process. Wang shows that it is known to carry out a process further comprising recovering a polycarbonate having a lower molecular weight than the polycarbonate introduced into the extruder (Column 9, lines 17-21). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to lower the molecular weight of the polymer, as in Wang, during Taylor's molding process in order to produce a less bulky polymer.

Regarding Claim 23, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, 18, and 23, but they do not show the use of a hydrolysis catalyst. Wang shows that it is known to carry out a vented extrusion operation wherein the hydrolysis catalyst is introduced in an amount corresponding to between about 10 and about 300 parts per million based upon the weight of the polycarbonate introduced into the extruder (Column 10, lines 15-20). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's hydrolysis catalyst in Taylor's molding operation in order to expedite the molding process.

Regarding Claim 24, Taylor and Todt show the process as claimed as discussed in the rejection of Claims 1, 17, 18, and 22, but they do not show specific ending compositions with very little organic solvent. Wangshows that it is known to carry out a molding method wherein a polymer composition contains less than 0.5 percent by weight water and less than about 1 part per million methylene chloride (Column 10, lines 34-58). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to make Wang's specific composition using Taylor's and Todt's molding process in order to produce the most pure, high quality polymer possible.

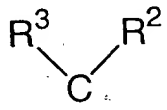
Regarding Claim 25, Taylor and Todt shows the process as claimed as discussed in the rejection of Claims 1, 17, and 18, but they do not show a specific polycarbonate. Wang shows that it is known to carry out a process wherein the polymer powder comprises bisphenol A polycarbonate (Column 5, lines 66-67 - Column 6, line 1). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's specific polycarbonate in Taylor's molding process in order to produce an article having the desired characteristics of that specific polymer.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor and Hosomi as applied to claims 1, 26, and 28 above, and further in view of Todt. Taylor and Hosomi shows the process as claimed as discussed in the rejection of Claims 1, 26, and 28 above, including the use of polymer powder of bisphenol A polycarbonate comprising water and an additional polymer (Hosomi: Column 5, lines 7-16; Column 7, lines 17-19). They do not show a specific chemical structure of the additional polymer. Todt et al., hereafter "Todt," show that it is known to carry out a molding method, wherein a polymer powder is a polycarbonate comprising structural units I



I

(Column 8, structural units XII, lines 2-12) wherein R1 is independently at each occurrence a C6-C20 aryl group (Column 8, line 14); n and m are independently integers 0-4 (Column 8, line 21); and W is the group



(Column 8, structural units XII, lines 2-12) wherein R2 and R3 are C1-C20 alkyl group (Column 8, line 15). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Todt's polymer in Taylor's and Hosomi's molding process in order to produce an article having the molded characteristics of the specific polycarbonate.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, Hosomi, and Todt as applied to claims 1, 26, 28, and 29 above, and further in view of

Wang. Taylor, Hosomi, and Todt shows the process as claimed as discussed in the rejection of Claims 1, 26, 28, and 29 above, but they do not show the use of 1,1-bis(3-methyl-4-hydroxyphenyl)cyclohexane polycarbonate. Wang shows that it is known to carry out a process wherein an additional polymer is 1,1-bis(3-methyl-4-hydroxyphenyl)cyclohexane polycarbonate (Column 4, lines 40-46). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Wang's specific polymer as an additional polymer in Taylor's, Hosomi's, and Todt's molding process in order to obtain a molded article having the characteristics of the specific polycarbonate.

Claims 32-34, 36-39, and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, in view of Umemura, in further view of Hosomi. Regarding Claim 32, Taylor shows that it is known to carry out a method for removing volatile components from a polymer powder (Column 2, lines 18-22), said method comprising introducing a polymer powder comprising water into an extruder (Column 2, lines 53-58), said extruder comprising a powder conveying section (Figure 1, barrel section 1), a powder seal section located downstream of said powder conveying section (Figure 1, melt seal between barrel sections 1 and 2), a kneading and melting section located downstream of said powder seal section (Figure 1, barrel sections 2 and/or 3), and a vacuum vent located downstream of said kneading and melting section (Figure 1, vacuum vent depicted at the top of barrel section 4), conveying the polymer powder through said powder seal section (Column 2, lines 18-21), heating and shearing the polymer powder in a kneading and melting section to form a polymer melt comprising water (Column 2, lines 12-17), and subjecting said polymer melt to vacuum venting at said vacuum vent

(Column 2, lines 15-17). Taylor does not show the use of methylene chloride as the organic solvent. Umemura shows that it is known to carry out a molding operation using an organic solvent comprising methylene chloride (Column 4, lines 45-47). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use methylene chloride as an organic solvent, as in Umemura, during Taylor's molding operation in order to take advantage of the solvent's ability to promote the most efficient and desirable polymerization. Taylor also does not show the use of bishphenol A polycarbonate. Hosomi shows that it is known to carry out a vented extrusion process wherein the polycarbonate is a bishphenol A polycarbonate (Column 4, lines 1-21). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's polymer in Taylor's molding operation in order to produce a molded article having the desired characteristics of bisphenol A polycarbonate.

Regarding Claim 33, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show specific ending compositions with very little organic solvent. Umemura shows that it is known to carry out a molding method wherein a polymer composition contains less than 0.5 percent by weight water and less than about 1 part per million methylene chloride (Column 12, Table 2; It is noted that the claim language contains the term "about 1 part per million". It is being broadly interpreted to mean +/- at least 0.1, and therefore Umemura's 1 part per million would meet applicant's claim.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to make Umemura's specific composition

using Taylor's and Hosomi's molding process in order to produce the most pure, high quality polymer possible.

Regarding Claim 34, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, including a method wherein the extruder is a twin screw, co-rotating extruder (Column 3, lines 38-40), meeting applicant's claim.

Regarding Claims 36 and 37, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show any specific temperature ranges. Umemura shows that it is known to carry out a molding process in which the extruder is operated with set temperatures of heated zones in a temperature between (Claim 8) about 100°C and about 400°C (Column 7, lines 44-46), and (Claim 9) about 200°C and about 450°C (Column 7, lines 44-46). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to heat the material in Taylor's and Hosomi's extruder to Umemura's temperatures in order to process the molding material at its optimum working temperature.

Regarding Claim 38, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show any specific pressure applied via the vent. Hosomi shows that it is known to carry out a vented extruder operation wherein the vacuum vent is operated in a range between about 1 and about 750 torr (Column 5, lines 54-60). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's vacuum pressure as that of the vent in Taylor's and Umemura's molding process in order to draw the appropriate amount of volatiles from the material being processed in the extruder.

Regarding Claim 39, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but only shows one vacuum vent. Hosomi shows that it is known to carry out a molding method wherein an extruder comprises at least one additional vacuum vent (Column 5, lines 37-40). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's additional vacuum vents in Taylor's and Umemura's molding process in order to increase the amount of volatile material drawn from the molding material in the extruder.

Regarding Claim 42, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not explicitly show mixing in the melt seal section. Hosomi shows that it is known to carry out a vented extrusion operation wherein said extruder further comprises a melt seal section, said melt seal section comprising a distributive mixing element (Column 6, lines 1-25). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Hosomi's mixing in the melt seal section during Taylor's and Umemura's molding process in order to promote the most effective processing of the molding material.

Regarding Claim 43, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show specific ending compositions with very little organic solvent. Umemura shows that it is known to carry out a molding method wherein a polymer composition contains less than 0.5 percent by weight water and less than about 1 part per million methylene chloride (Column 12, Table 2; It is noted that the claim language contains the term "about 1 part per million". It is being broadly interpreted to mean +/- at least 0.1, and therefore Umemura's 1 part per million would meet applicant's claim.). It would have been prima facie obvious to one of ordinary skill

in the art at the time the invention was made to make Umemura's specific composition using Taylor's and Hosomi's molding process in order to produce the most pure, high quality polymer possible.

Regarding Claim 44, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, including a method wherein the extruder is operated at between 50 and 100 percent of its maximum power utilization (Column 3, lines 52-61; Table 2), meeting applicant's claim.

Regarding Claim 45, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show a specific L/D ration. Hosomi shows that it is known to carry out a molding method having an extruder whose L/D ratio is between about 20 and about 60 (Column 8, lines 39-42). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Hosomi's L/D ratio as that of Taylor's and Umemura's extruder in order to promote the most efficient processing of the molding material.

Claims 35, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, Umemura, and Hosomi as applied to claim 32 above, and further in view of Andersen.

Regarding Claim 35, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show an extruder comprising multiple barrels. Andersen shows that it is known to carry out a molding operation wherein the extruder comprises one or more barrels (Column 3, lines 5-10; It is noted that Andersen's "one or more barrels" clearly teaches applicant's "5 to 10 barrels".). Andersen and Taylor are combinable because they are concerned with a similar technical field, namely, that of

vented extrusion operations. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Andersen's multiple barreled operation with Taylor's general molding operation in order to more efficiently process a greater volume of material.

Regarding Claims 40 and 41, Taylor shows the process as claimed as discussed in the rejection of Claim 32 above, but does not show specific flighting of kneading blocks. Andersen shows that it is known to carry out an extrusion operation wherein a kneading and melting section comprises both forward and rearward flighted kneading blocks or elements (Column 3, lines 25-38). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Andersen's varying flight pitches in Taylor's molding operation in order to enable the optimum desired processing of the molding material.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12, 15-33, 39-49, 62, and 63 of U.S. Patent No. 6,365,710. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application's claims simply use *slightly* different wording in the claim language.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent is cited to further show the state of the art with regard to molding specific organic powders:

U.S. Patent 5,482,916 to Takuma et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 703-305-7239. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 703-305-5493. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Maf
October 7, 2003

MICHAEL COLAIANNI
PRIMARY EXAMINER